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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,785	08/03/2001	Thomas Lopatic	14616	7412

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EXAMINER	
KUCAB, JAMIE R	
ART UNIT	PAPER NUMBER
3621	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/921,785	LOPATIC, THOMAS	
	Examiner	Art Unit	
	JAMIE KUCAB	3621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *76-98* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *76-98* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Acknowledgements

1. This Office action is in response to the RCE filed on January 31, 2008.

2. This Office action is given Paper No. 20080320 for reference purposes only.

3. Claims 76-98 are currently pending.

Continued Examination Under 37 CFR 1.114

4. A request for continued examination under 37 C.F.R. §1.114, including the fee set forth in 37 C.F.R. §1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 C.F.R. §1.114, and the fee set forth in 37 C.F.R. §1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 C.F.R. §1.114. Applicant's submission filed on January 31, 2008 has been entered.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 76-98 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnan et al. (6,141,698 hereinafter "Krishnan") in view of Horning et al. (2005/0183072 hereinafter "Horning").

7. Regarding claims 76, 98, Krishnan discloses a method/processor-readable medium of automatically modifying an executable file comprising the steps of: identifying one or more instructions and/or one or more variables within the executable file; inserting data and/or one or more instructions within said executable file before or after said identified one or more instructions and/or one or more variables, whereby any inserted instructions implements license verification code and any inserted data is license related; and relocating all instructions and all variables within said executable file affected by the insertion, and adjusting all to reflect the relocating of the affected instructions and variables [see summary of the invention; 3:55-6:27, injection mechanism modifying the behavior of existing executable code].

8. However, Krishnan fails to explicitly disclose pseudo-randomly permuting a sequence of instructions within the executable file and identifying one or more instructions of the sequence of instructions and/or one or more variables, said instructions and/or variables at pseudo-randomly chosen locations within the executable file.

9. Horning teaches pseudo-randomly permuting a sequence of instructions within the executable file and identifying one or more instructions of the sequence of instructions and/or one or more variables, said instructions and/or variables at pseudo-randomly chosen locations within the executable file [¶139-140, ¶270, ¶608].

10. Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the invention of Krishnan to include the permuting/identifying of Horning in order to obscure the flow of program control [¶140].

11. Regarding claim 77, Krishnan/Horning discloses the method according to claim 76, characterized in that at least part of the data and/or the one or more instructions inserted within the executable file enable automatic testing of the integrity of at least one part of the executable file [Krishnan, 4:37-55, verifying checksums, see Fig 9 and associated text].

12. Regarding claim 78, Krishnan/Horning discloses the method according to claim 76, characterized in that the identification of the one or more instructions and/or one or more variables is based on information obtained from at least one of an initial, intermediate and final state of the creation process resulting in the executable file [Krishnan, Figs 11, 14 and associated text; columns 11-12].

13. Regarding claim 79, Krishnan/Horning discloses the method according to claim 78, characterized in that the information is obtained from object files created in the process of generating the executable file from a source code file [Krishnan, columns 5-8, info obtained from blocks as also described in the accompanying figures and associated text].

14. Regarding claim 80, Krishnan/Horning discloses the method according to claim 78, characterized in that the information is obtained from debug information created in the process of generating the executable file from a source code file [Krishnan, columns 11-12, flags/modes].

15. Regarding claim 81, Krishnan/Horning discloses the method according to claim 78, characterized in that the information is obtained from relocation information created in the process of generating the executable file from a source code file [Krishnan, Fig 11 and 14 and associated text, location information].

16. Regarding claim 82, Krishnan/Horning discloses the method according to claim 76, characterized in that the data and/or the one or more instructions inserted in the executable file enable an identification of a licensee of the software product comprising the executable file [Krishnan, columns 7-8, license information].

17. Regarding claim 83, Krishnan/Horning discloses the method according to claim 76, characterized in that the data and/or the one or more instructions inserted in the executable file enable an identification of the executable file itself [Krishnan, Fig 3 and 9 and associated text, location/ID executable file].

18. Regarding claim 84, Krishnan/Horning discloses the method according to claim 76, characterized in that the data and/or the one or more instructions inserted in the executable file enable an identification of a master file from which the executable file forms a copy before being modified [Krishnan, 8:41-65, 13:18-38, also see main entry discussion in spec and claims]

19. Regarding claim 85, Krishnan/Horning discloses the method according to claim 76, characterized in that the one or more instructions inserted in the executable file create a query to an execution control software program for a permission to run the executable file, and the one or more inserted instructions control the execution of the executable file in accordance to the permission being granted or denied [Krishnan, Col. 2-3, Fig 11 and associated text, col. 11-13, determining whether product is licensed].

20. Regarding claim 86, Krishnan/Horning discloses the method according to claim 76, characterized in that the one or more instructions inserted in the executable file monitor changes to the executable file and the one or more inserted instructions create a message indicating an infringement of the integrity of the executable file upon a change not being verified [Krishnan, column 12, discussion of flag].

21. Regarding claim 87, Krishnan/Horning discloses the method according to claim 85, characterized in that granting the permission to run the executable file comprises

validation information in form of a request ticket [Krishnan, determining validation of key, column 7].

22. Regarding claim 88, Krishnan/Horning discloses the method according to claim 85, characterized in that the permission to run the executable file is formed by a runtime ticket [Krishnan, 4:1-55].

23. Regarding claim 89, Krishnan/Horning discloses the method according to claim 85, characterized in that the one or more instructions inserted in the executable file receive a log-off ticket and the one or more inserted instructions insert the log-off ticket within the executable file [Krishnan, columns 1-2, turning off features].

24. Regarding claim 90, Krishnan/Horning discloses the method according to claim 89, characterized in that the one or more instructions inserted in the executable file is further adapted to return the log-off ticket to the execution control software program upon terminating the execution of the executable file [Krishnan, Fig 4, adapted to terminate application].

25. Regarding claim 91, Krishnan/Horning discloses the method according to claim 87, characterized in that the one or more instructions inserted in the executable file

comprises verification code for verifying the validity of at least one type of ticket [Krishnan, Fig 9, verification code].

26. Regarding claim 92, Krishnan/Horning discloses the method according to claim 85, characterized in that the one or more instructions inserted in one or more instructions of the executable file increment a counter related to the respective instruction each time said instruction of the executable file is involved [Krishnan, col. 11-12, counter/flag mechanism].

27. Regarding claim 93, Krishnan/Horning discloses the method according to claim 92, characterized in that said one or more instructions inserted in one or more instructions of the executable file send data concerning the value of the counter to the execution control software program upon terminating the execution of the executable file [Krishnan, Fig 14 and associated text, col. 4-6, import data].

28. Regarding claim 94, Krishnan/Horning discloses the method according to claim 87, characterized in that the one or more instructions inserted in the executable file comprises means for an execution of code received from the execution control software program [Krishnan, col. 1-3 and 9, means of injection/execution].

29. Regarding claim 95, Krishnan/Horning discloses the method according to claim 94, characterized in that the one or more instructions inserted in the executable file comprises means for returning a result of the execution of said code to said execution control software program [Krishnan, col. 11-14, checksum result].

30. Regarding claim 96, Krishnan/Horning discloses the method according to claim 76, characterized by at least one of changing an arrangement of at least two subroutines and changing the arrangement of at least two variables within the executable file [Krishnan, col. 11-15, blocks/determinations routines].

31. Regarding claim 97, Krishnan/Horning discloses the method according to claim 96, characterized in that the changing of the arrangement of the at least two subroutines and the changing of the at least two variables is performed by a pseudo-random permutation [Krishnan, 12:48-13:17].

Examiner Note

32. The Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the Applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may be applied as well. It is respectfully requested from the Applicant, in preparing responses, to fully

consider the reference in its entirety as potentially teaching all or part of the claimed invention as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Response to Arguments

33. Applicant's arguments with respect to the 102 rejections of claims 76-98 have been considered but are moot in view of the new grounds of rejection.

Conclusion

34. References considered pertinent to Applicant's disclosure are listed on form PTO-892. All references listed on form PTO-892 are cited in their entirety.

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jamie Kucab whose telephone number is 571-270-3025. The examiner can normally be reached on Monday-Friday 9:30am-6:00pm EST.

36. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Fischer can be reached on 571-272-6779. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

37. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JK

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